

# 2003 Diabetes Mandate Report

Utah Insurance Department

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The *2003 Diabetes Mandate Report* was prepared pursuant to Utah Code Annotated (U.C.A.) § 31A-22-626(4)(a), by Jeffrey E. Hawley, Ph.D. of the Utah Insurance Department for the Utah Insurance Commissioner.

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## Executive Summary

The purpose of this report is to comply with the statutory requirements of Utah Code Annotated (U.C.A.) § 31A-22-626, which requires the Utah Insurance Commissioner to conduct a study of the impact of the diabetes mandate. The study is based on data obtained from commercial health insurers, the Utah Department of Health, and the available research literature on diabetes and diabetes statutes. Using data obtained from approximately 90 percent of the commercial health insurance market, the Utah Insurance Department estimated the impact of the diabetes mandate on health insurance coverage, the diabetic population in Utah, and comprehensive claim costs in the commercial health insurance market.

*Coverage Impact.* Based on data from 1999 to 2002, most commercial health insurers were providing some level of coverage for the major aspects of the diabetes mandate. The two areas that coverage appeared to have changed because of the mandate were diabetes education and glucose monitors. By 2002, the number of commercially insured residents with coverage for diabetes education had increased by 20 percent and the number of commercially insured residents with coverage for glucose monitors with lancet devices had increased by 10 percent. There may also have been an increase in the minimum levels of coverage available, particularly for diabetes education.

*Population Impact.* Based on data from 2000 to 2002, the prevalence of diabetics in the commercial health insurance market is slightly lower than the prevalence of diabetics in Utah as a whole. Among residents between the ages of 0 to 65, the prevalence of diabetes was 1.8 percent among commercially insured residents, compared to 2.4 percent for the entire state of Utah. This is probably due to differences in demographics, as the commercially insured population appears to be younger than the Utah population as a whole. Also, commercial health insurers typically do not provide major medical coverage to people over the age of 65, which is the population with the highest rates of diabetes. As a result, the diabetes mandate affects approximately 30 percent of type 1 & 2 diabetics between the ages of 0 to 64 (or about 20 percent of all type 1 & 2 diabetics in Utah) and approximately 30 percent of gestational diabetics in Utah.

*Financial Impact.* Financial impact was measured using data from 2000 to 2002. All data was adjusted to 2000 dollars using the Medical Care Price Index and weighted by member months. During this three-year period, the average comprehensive premium per member per year increased by 5.7 percent, the average comprehensive losses per member per year increased by 8.6 percent, and the diabetes mandate losses per member per year increased by 19.8 percent.

In relative terms, the 19.8 percent increase in the diabetes mandate accounts for only 0.2 percent of the total increase in comprehensive costs. Furthermore, the cost of the mandate as a percentage of losses per member per year increased from 0.8 percent to 0.9 percent, a relative increase of 0.1 percent. Thus, the diabetes mandate, as measured in this study, did not exceed 1 percent of losses per member per year during the three years data was available and does not appear to have increased comprehensive claim costs more than 0.1 percent. This is consistent with the Legislative Fiscal Analyst's previous estimate that premium costs would not increase

more than 0.17 percent (see Appendix) as well as previous studies of the claim costs of other states' diabetes statutes.

Consistent with previous research, diabetics incurred 4 to 5 times more health care costs than the average commercial insured member. Diabetics accounted for 9 percent of total comprehensive costs, and the diabetes mandate accounts for approximately 10 percent of that or 0.9 percent of total comprehensive costs. However, if the percentage of diabetics covered by the commercial health insurance market increased from 1.8 percent to the state average of 2.4 percent, comprehensive costs would likely increase by approximately 2 percent and the diabetes mandate costs would increase by approximately 0.2 percent.

*Estimated Benefits.* The primary goal of diabetes therapy is to maintain near normal levels of blood glucose. Previous research suggests that programs that provide diabetes education and access to the supplies necessary to control glucose levels may improve health outcomes and reduce health care costs for diabetes.

The available data did not permit the Utah Insurance Department to measure health outcomes and health care costs for individual diabetics, but the data did show an increase in the use of diabetes education and supplies that previous research has shown may benefit diabetics. From 2000 to 2002, diabetics received significantly more education, more insulin and prescription oral agents, and a slight increase in certain supplies needed for glucose monitors, insulin injection (particularly cleaning supplies), and insulin pump use.

Although the amount and availability of diabetes education and supplies increased in a direction that previous research has shown may benefit patients with diabetes, the actual levels of use of diabetes education and supplies by diabetics in the commercial health insurance market as a whole may not be at levels that previous research has found to provide a clinical benefit. Furthermore, the increase in insulin, prescription oral drugs, and various supplies may not be due to the mandate alone, as utilization for all pharmaceuticals in the commercial market also increased by 25 percent. Rather, some of the increase in these diabetic services may simply be part of broader medical trends. An exception to this is the increase in diabetes education, which is more likely to have been a direct effect of the diabetes mandate.

## Introduction

During the 2000 Legislative session, the Utah Legislature passed S.B. 108 “Diabetes Treatment and Management – Managed Care”. This bill created Utah Code Annotated (U.C.A.) § 31A-22-626, which required the Insurance Commissioner to establish by rule the minimum standards for the coverage of diabetes under commercial health insurance policies (see “U.C.A. § 31A-22-626” in the Appendix). At that time, the Office of the Legislative Fiscal Analyst estimated that the statute could increase premiums for commercial health insurance by up to 0.17 percent (see “Fiscal Note for S.B. 108” in the Appendix). The statute is currently scheduled to expire July 1, 2004.

The statute also requires the Insurance Commissioner to report to the Health and Human Services Interim Committee on the effects of U. C. A. § 31A-22-626. The report is to be based on three years of data and should include, to the extent possible:

- (1) a review of the rules established under Subsection ;
- (2) the change in availability of coverage resulting from this section;
- (3) the extent to which persons have been benefited by the provisions of this section; and
- (4) the impact of this section on premiums.

The purpose of this report is to comply with the requirements of U.C.A. § 31A-22-626. In addition to reviewing the rule, the report includes a research study that explores the effects of U.C.A. § 31A-22-626 on the commercial health insurance market.

## Diabetes Mellitus

Diabetes, or diabetes mellitus, is a group of diseases characterized by abnormal levels of blood glucose caused by defects in insulin production, insulin action, or both. Diabetes is a serious health condition which affects more than 12 million people in the United States during 2002 and costs more than \$132 billion in medical expenditures and lost productivity (American Diabetes Association, 2003a). Diabetes is associated with serious complications and premature death. Currently, there are three major types of diabetes: type 1, type 2, and gestational diabetes.

*Type 1 diabetes.* Type 1 diabetes, also known as insulin-dependent diabetes mellitus (IDDM) or juvenile-onset diabetes, accounts for 5 to 10 percent of all diagnosed cases of diabetes. Type 1 diabetes develops when the body’s immune system destroys pancreatic beta cells, the only cells in the body that make the hormone insulin that regulates blood glucose. Type 1 diabetes usually strikes children and young adults (Centers for Disease Control, 2002).

*Type 2 diabetes.* Type 2 diabetes, also known as non-insulin dependent diabetes mellitus (NIDDM) or adult-onset diabetes, accounts for about 90 to 95 percent of all diagnosed cases of diabetes. It usually begins as insulin resistance, a condition in which the body’s cells do not use insulin properly, and as a result, the pancreas must produce increasingly higher levels of insulin to regulate glucose levels. Over time, the pancreas gradually loses its ability to produce insulin. The risk for type 2 diabetes increases with age, obesity, a family history of diabetes, a prior history of gestational diabetes, impaired glucose tolerance, or a sedentary lifestyle. Type 2

diabetes is increasingly being diagnosed in children and adolescents (Centers for Disease Control, 2002).

*Gestational diabetes.* Gestational diabetes, or gestational diabetes mellitus (GDM) is a form of glucose intolerance that is first diagnosed during pregnancy and affects approximately 7 percent of all pregnancies annually (American Diabetes Association, 2002). During pregnancy, gestational diabetes requires treatment to normalize blood glucose levels. After pregnancy, 5 to 10 percent of women with gestational diabetes are found to have type 2 diabetes. Also, women who have had gestational diabetes have a higher risk for developing diabetes later in life (Centers for Disease Control, 2002).

## Diabetes in Utah

*Prevalence of type 1 and 2 diabetes.* Approximately 3.5 percent of Utah residents have been diagnosed with either type 1 or type 2 diabetes (Office of Public Health Assessment, 2002). As shown in Table 1, the prevalence of diabetes increases with age (see Table 1).

**Table 1. Type 1 and 2 Diabetes in Utah during 2001**

	Utah Population		Type 1 and 2 Diabetics	
	Number of Persons	Percent	Estimated Number of Persons	Percent
17 and Under	730,417	31.8%	1,800	0.2%
18 to 34	669,170	29.1%	9,000	1.3%
35 to 49	439,986	19.2%	15,000	3.4%
50 to 64	262,021	11.4%	25,500	9.7%
65 and Over	194,373	8.5%	28,200	14.5%
<b>Total</b>	<b>2,295,967</b>	<b>100.0%</b>	<b>79,800</b>	<b>3.5%</b>

Data Source: 2001 Utah Health Status Survey

*Prevalence of gestational diabetes.* Gestational diabetes may effect as many as 2.3 percent of pregnant women in Utah (Utah Diabetes Prevention and Control Program, 2003a), or approximately .46 percent of Utah women (Office of Public Health Assessment, 2001). The prevalence of gestational diabetes also increases with age (see Table 2).

**Table 2. Gestational Diabetes in Utah during 2001**

	Total Number of Pregnancies	Percent of Pregnancies with Gestational Diabetes
24 and Under	19,448	1.3%
25 to 34	23,805	2.6%
35 and Over	4,126	5.3%
<b>Total</b>	<b>47,399</b>	<b>2.3%</b>

Data Source: Utah Office of Vital Records and Statistics Birth Records 2001 as reported in Utah Diabetes Prevention and Control Program (2003).

## Methodology

In compliance with U.C.A. § 31A-22-626, the Utah Insurance Department conducted a study of the diabetes mandate. The study attempted to determine, to the extent possible, the statute's impact on diabetes coverage, the diabetic population, and the cost of health insurance.

### Sampling

State insurance regulation affects only commercial insurance companies. Government sponsored and employer sponsored employee benefit plans are exempt. As a result, U.C.A. § 31A-22-626 applies only to commercial health insurance companies who offer comprehensive health insurance coverage in Utah. Utah's comprehensive health insurance market covers approximately one-third of Utah residents (see Table 3).

**Table 3. Comprehensive Health Insurance Membership from 2000 to 2002**

	2000	2001	2002
Comprehensive Health Insurance Market	935,068	855,018	813,394
As percent of population	42%	37%	35%
Utah Population	2,246,544	2,295,971	2,338,761
As percent of population	100%	100%	100%

Source: Utah Accident & Health Survey and Utah Population Estimates Committee

Four commercial health insurance companies were selected for participation in this study. These companies represent approximately 90 percent of Utah's comprehensive health insurance market (see Table 4). These particular companies were selected for three main reasons. First, the majority of the market could be sampled with a minimum of data collection resources. Second, they share a common business model (that of a large managed care health insurer), which minimizes differences between companies. Third, these insurers were able to provide the detailed data needed for this study.

**Table 4. Comprehensive Health Insurance Market from 2000 to 2002**

		Sampled Insurers	Percent of Total	Comprehensive Market	Percent of Total
2000	Members	775,067	83%	935,068	100%
	Premium*	\$1,041,867,789	84%	\$1,239,046,717	100%
2001	Members	763,422	89%	855,018	100%
	Premium	\$1,168,677,631	89%	\$1,308,837,635	100%
2002	Members	729,372	90%	813,394	100%
	Premium	\$1,225,509,127	92%	\$1,328,724,448	100%

Source: Utah Accident & Health Survey

\* "Premium" means direct earned premium

## Data Collection and Analysis

In collaboration with the sampled insurers and the Department of Health, three data collection instruments were developed to satisfy the three main requirements of the mandated report. Insurers were asked to provide data for three years, 2000, 2001, and 2002. Generally, data for 1999 was not available from insurers. One exception to this was that data for 1999 was available for coverage changes and was used in that portion of the study. All data represents commercially insured membership between the ages of 0 to 65. Insurers were asked to exclude any membership age 65 or older (as these members may also qualify for Medicare). The data represents the status of the commercial insurer as of December 31 of each measurement year. For the purposes of this study, April 30, 2001 (the month the diabetic rule was implemented) was used as the effective date of the mandate. Therefore, 1999 and 2000 data represent market conditions prior to the mandate, whereas 2001 and 2002 data represent market conditions after the mandate.

*Definition of Diabetes.* U.C.A. § 31A-22-626 requires that type 1, type 2, and gestational diabetics be covered under the diabetes mandate. For the purposes of this study, two groups of diabetics were used: type 1 & 2 diabetics and gestational diabetics.

Type 1 & 2 diabetics were measured using the 2002 HEDIS Comprehensive Diabetes Care (NCQA, 2002a) measure as a standard. It includes a list of medical codes that can be used for identifying type 1 & 2 diabetics in either a non-acute outpatient/inpatient setting or an acute inpatient or emergency room setting. It also includes a list of nearly 2,000 national drug codes used for identifying diabetic pharmacy claims. Both types of data were used to identify type 1 & 2 diabetics in insurers' claims databases.

Consistent with the HEDIS guidelines, an individual member was counted as a type 1 & 2 diabetic if the member had either one inpatient claim or two outpatient claims with an ICD-9 code for diabetes in either the measurement year or in the year prior to the measurement year; or if the member had two pharmacy claims for insulin or oral hypoglycemics/antihyperglycemics during the measurement year or the year prior to the measurement year.

For gestational diabetes, a single ICD-9 code for abnormal glucose tolerance during pregnancy (648.8) was used combined with an ICD-9 code for a delivery. An individual member was counted as a gestational diabetic if the member had a 648.8 code combined with any delivery code during measurement year (see PMIC, 2001).

*Definition of Mandate.* The diabetes mandate was measured by linking a set of medical codes to each type of diabetic service described in R590-200-5. In most cases, Healthcare Common Procedure Coding System (HCPCS) codes were used for each diabetic service or supply and the 2002 HEDIS National Drug Code (NDC) list for diabetic drugs was used for insulin, glucagons kits, and prescription oral agents (see American Medical Association, 2002; NCQA, 2002b).

*Coverage Impact.* The change in availability coverage was measured by asking each participating insurer to provide the total number of members who had coverage for each aspect

of the diabetes mandate. The membership covered by each specific benefit was then compared to the total membership. This generated the percentage of members with diabetic coverage as of December 31 from 1999 to 2002.

*Population and Financial Impact.* Population and financial impacts were measured using two related instruments. First, insurers were asked to identify the number of type 1 & 2 and gestational diabetics in their administrative claims databases. This data was organized by ages 0 to 64 into four age categories. Second, insurers were asked to provide a summary of the claims activity for three groups: comprehensive (all commercial major medical members), type 1 & 2 diabetics, and gestational diabetes. The claim extract included detailed information on utilization, the amount paid by the insurer and the insured, premiums collected, and member months. Individual medical chart and health cost data was not available. All financial data was converted to 2000 dollars using the Medical Cost Price Index and weighted by member months. These two data sources were used to estimate the impact of the mandate on Utah's diabetic population and the cost of health insurance in Utah's comprehensive health insurance market.

## Results

The study is divided into five areas: review of the diabetes rule, coverage impact, population impact, financial impact, and estimated benefits to the diabetic population. Each section is discussed separately.

### Review of the Diabetes Rule

As required by U.C.A. § 31A-22-626, the Utah Insurance Department created R590-200 "Diabetes Treatment and Management", which took effect April 30, 2001 (see "R590-200. Diabetes Treatment and Management" in the Appendix). The rule establishes minimum standards for the coverage of diabetes. Diabetes includes individuals with:

- (1) complete insulin deficiency or type 1 diabetes;
- (2) insulin resistance with partial insulin deficiency or type 2 diabetes;
- (3) elevated blood glucose levels induced by pregnancy or gestational diabetes.

The rule requires that coverage for diabetes be provided at benefit levels consistent with the coverage provided for the treatment of other illnesses or diseases. In addition, the rule specifically requires commercial health insurers to cover, when medically necessary, the following benefits.

*Diabetes education.* Insurers must cover diabetes self-management training and patient management, including medical nutrition therapy, when deemed medically necessary and prescribed by an attending physician covered by the plan. The diabetes self-management training services must be provided by a diabetes self-management training program that is accepted by the plan and is:

- (1) recognized by the federal Health Care Financing Administration; or
- (2) certified by the Department of Health; or
- (3) approved or accredited by a national organization certifying standards of quality in the provision of diabetes self-management education.

Diabetes self-management training programs shall be provided upon a health care insurance policyholder's/dependent's diagnosis with diabetes, upon a significant change in a health care insurance policyholder's/dependent's diabetes related condition, upon a change in a health care insurance policyholder's/dependent's diagnostic levels, or upon a change in treatment regimen when deemed medically necessary and prescribed by an attending physician covered by the plan. The plan must provide no less than the minimum standards required by the selected self-management training services provider program.

*Blood glucose monitoring.* Insurers must cover commercially available blood glucose monitors designed for patients use and for persons who have been diagnosed with diabetes, as well as blood glucose monitors to the legally blind (which includes commercially available blood glucose monitors designed for patient use with adaptive devices and for persons who are legally blind and have been diagnosed with diabetes). In addition, insurers must cover the test strips, lancet devices, and lancets required for glucose monitors and used for monitoring glycemic control.

Insurers must also cover visual reading and urine testing strips, which includes visual reading strips for glucose, urine testing strips for ketones, or urine test strips for both glucose and ketones. Using urine test strips for glucose only is not acceptable as the sole method of monitoring blood sugar levels.

*Insulin.* Insurers must cover insulin (including commercially available insulin preparations including insulin analog preparations available in either vial or cartridge), insulin injection aids (including those adaptable to meet the needs of the legally blind), and syringes (including insulin syringes, pen-like insulin injection devices, pen needles for pen-like insulin injection devices and other disposable parts required for insulin injection aids).

Insurers must also cover insulin pumps (including insulin infusion pumps) as well as the medical supplies needed for use with insulin pumps (including infusion sets, cartridges, syringes, skin preparation, batteries and other disposable supplies needed to maintain insulin pump therapy; as well as durable and disposable devices to assist with the injection of insulin and infusion sets).

*Prescription diabetic drugs.* Insurers must cover prescription oral agents of each class approved by the FDA for treatment of diabetes, and a variety of drugs, when available, within each class. Insurers must also cover glucagon kits.

## Coverage Impact

The diabetes mandate rule went into effect April 30, 2001. Insurers reported four years of coverage data, two before the mandate and two after. According to this data, comprehensive health insurers were providing most of the mandated coverage for diabetes prior to the passage of the mandate. The main change in the coverage appears to be an increase in the amount of diabetes education coverage from approximately 80 percent of the membership in 1999 to 100 percent in 2002, as well as a 10 percent increase in the coverage of lancet glucose monitors. There may also have been an increase in the levels of benefits covered for some insurers,

particularly for diabetes education. Another significant change was that insurers no longer had the option to reduce or drop coverage for diabetes from a commercial health insurance policy (see Table 5).

**Table 5. Percentage of Comprehensive Membership with Diabetes Coverage: 1999 to 2002**

	1999	2000	2001	2002
Diabetes Education				
Diabetes Management Training				
Individual	80%	79%	100%	100%
Group	80%	79%	100%	100%
Blood Glucose Monitoring				
Monitors				
Blood Glucose Monitors	100%	100%	100%	100%
Blood Glucose Monitors (Lancet)	92%	91%	89%	100%
Blood Glucose Monitor (Voice Synth.)*	100%	100%	100%	100%
Supplies necessary for monitor use				
Glucose Monitor Platform	100%	100%	100%	100%
Glucose Monitor Calibration Solution	100%	100%	100%	100%
Lancet Devices	100%	100%	100%	100%
Lancets	100%	100%	100%	100%
Test Strips for Glucose Monitors	100%	100%	100%	100%
Visual Reading Urine and Ketone Strips	100%	100%	100%	100%
Insulin				
Insulin & Injection Supplies				
Insulin***	99%	99%	99%	98%
Syringes	100%	100%	100%	100%
Insulin Pens & Supplies	100%	100%	100%	100%
Needle-free Injection Device	100%	100%	100%	100%
Insulin Injection Supplies (Alcohol + Betadine)**	48%	49%	47%	48%
Insulin Injection Supplies (Betadine Only)**	52%	51%	53%	52%
Insulin Pumps & Supplies				
Insulin Pumps	100%	100%	100%	100%
Insulin Pump Supplies (Infusion Sets)	100%	100%	100%	100%
Insulin Pump Supplies (Transparent Films)	100%	100%	100%	100%
Insulin Pump Supplies (Other)	100%	100%	100%	100%
Prescription Diabetic Drugs				
Drugs				
Prescription Oral Agents	100%	100%	100%	100%
Glucagon				
Glucagon Emergency Kit***	99%	99%	99%	98%
Glucagon Kit Power for Injection***	99%	99%	99%	98%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Diabetes Mandate Survey

Note: Percent of membership with coverage for diabetic services as of December 31 of the measurement year. Does not measure changes in benefit levels.

\* Some insurers did not cover all models, but all insurers covered at least one model of glucose monitors with a voice synthesizer feature suitable for use by the blind.

\*\* One insurer did not cover alcohol based cleaning supplies (affects about 50 percent of membership). All insurers provided coverage for some type of cleaning supplies.

\*\*\* Some pharmacy coverage was provided via an employer carve out arrangement and not under state regulation.

## Population Impact

The diabetes mandate only affects Utah's commercial health insurance market, specifically, comprehensive health insurance policies. Utah's comprehensive health insurance market covers approximately 35 percent of Utah residents (see Table 3). Generally, the vast majority of members among comprehensive health insurers are between the ages of 0 to 64. Medicare usually covers those 65 and older.

*Comprehensive Market.* As shown in Table 6, the age distribution of the comprehensive health insurance market is similar to that of the population of Utah ages 0 to 64 (see Table 6). However, the proportion of members between ages 50 and 64 is slightly lower in the commercial market than in Utah as a whole. Also, there is evidence of a slight aging trend from 2000 to 2002, with the comprehensive population getting slightly older over the three-year period.

**Table 6. Age Distribution in Comprehensive Sample: 2000 to 2002**

	Utah Population Distribution		Comprehensive Insurers					
			2000		2001		2002	
	Number of Persons	Percent	Member Years	Percent	Member Years	Percent	Member Years	Percent
17 and Under	730,417	34.8%	261,526	35.3%	255,483	35.0%	256,928	34.9%
18 to 34	669,170	31.8%	239,623	32.3%	235,882	32.3%	236,108	32.1%
35 to 49	439,986	20.9%	159,040	21.5%	155,544	21.3%	155,277	21.1%
50 to 64	262,021	12.5%	80,606	10.9%	82,727	11.3%	86,944	11.8%
<b>Total</b>	<b>2,101,594</b>	<b>100.0%</b>	<b>740,796</b>	<b>100.0%</b>	<b>729,636</b>	<b>100.0%</b>	<b>735,257</b>	<b>100.0%</b>

Data Sources: 2001 Utah Health Status Survey and Diabetes Mandate Survey

*Type 1 & 2 diabetes.* Because comprehensive insurers have a slightly younger population, they would be expected to have a lower rate of diabetes than the Utah population as a whole. In 2001, approximately, 3.5 percent of Utah's population had been diagnosed with Type 1 or Type 2 diabetes (see Table 1). However, for those between the ages of 0 to 64, the rate is only 2.4 percent (see Table 7). Comprehensive insurers reported a prevalence rate of 1.6 percent during 2000, and which increased to 1.8 percent by 2002.

**Table 7. Prevalence of Type 1 & 2 Diabetics in Comprehensive Sample by Age: 2000 to 2002**

	Utah Diabetic Distribution		Comprehensive Insurers					
			2000		2001		2002	
	Number of Persons	Percent	Member Years	Percent	Member Years	Percent	Member Years	Percent
17 and Under	1,800	0.1%	618	0.1%	632	0.1%	635	0.1%
18 to 34	9,000	0.4%	1,952	0.3%	2,172	0.3%	2,120	0.3%
35 to 49	15,000	0.7%	3,964	0.5%	4,190	0.6%	4,071	0.6%
50 to 64	25,500	1.2%	5,550	0.7%	6,110	0.8%	6,379	0.9%
<b>Total</b>	<b>51,300</b>	<b>2.4%</b>	<b>12,085</b>	<b>1.6%</b>	<b>13,105</b>	<b>1.8%</b>	<b>13,205</b>	<b>1.8%</b>

Data Sources: 2001 Utah Health Status Survey and Diabetes Mandate Survey

Note: "Percent" refers to the percent of the total population. All data refers to type 1 & 2 diabetics only.

This increase is probably due to the slight aging trend in comprehensive health insurance market from 2000 to 2002. For example, the proportion of comprehensive members between the ages of 50 to 64 increased from 2000 to 2002, which is the group with the highest risk of diabetes for those between the ages of 0 to 64.

*Gestational diabetes.* Age is also a factor in the rate of gestational diabetes. Approximately 0.46 percent of Utah's women have been diagnosed with gestational diabetes, and the risk for having the disease increases with age. However, the rate of pregnancy also declines with age. Among comprehensive insurers, approximately 0.38 percent of women had gestational diabetes in 2000, but only 0.34 percent of women had it in 2002 (see Table 8).

**Table 8. Prevalence of Gestational Diabetics in Comprehensive Sample by Age: 2000 to 2002**

	Utah Diabetic Distribution		Comprehensive Insurers					
			2000		2001		2002	
	Number of Women	Percent	Member Years	Percent	Member Years	Percent	Member Years	Percent
17 and Under	-	-	19	0.01%	14	0.00%	4	0.00%
18 to 34	-	-	1,159	0.32%	1,078	0.30%	1,026	0.28%
35 to 49	-	-	187	0.05%	173	0.05%	173	0.05%
50 to 64	-	-	2	0.00%	2	0.00%	3	0.00%
<b>Total</b>	<b>5,100</b>	<b>0.46%</b>	<b>1,367</b>	<b>0.38%</b>	<b>1,267</b>	<b>0.35%</b>	<b>1,207</b>	<b>0.34%</b>

Data Source: 2001 Health Status Survey Data Set and Diabetes Mandate Survey

Note: "Percent" refers to percent of total population. Statewide gestational diabetic distribution by age not available. All data refers to gestation diabetics only.

*Population Impact.* Because the comprehensive market has a slightly younger population than Utah overall, the diabetes mandate affects a smaller number of diabetics than if the comprehensive market had the same demographics as Utah as a whole. As a result, the diabetes mandate affects approximately 30 percent of Utah's diabetic population ages 0 to 64, or about 20 percent of all diabetics in Utah (see Table 9).

**Table 9. Estimated Population Impact of Diabetes Mandate**

	Estimated Diabetics in Utah		Estimated Diabetics in Comprehensive Sample			Estimated Diabetics in Comprehensive Market		
	Number of Persons	Percent of Population	Members	Percent of Commercial Sample	Percent of Population	Members	Percent of Commercial Market	Percent of Population
Type 1 & 2 (Ages 0 to 64)	51,300	2.4%	13,105	1.8%	0.6%	15,000	1.8%	0.7%
Type 1 & 2 (All ages)	79,800	3.5%	-	-	-	-	-	-
Gestational	5,100	0.2%	1,267	0.2%	0.1%	1,500	0.2%	0.1%
<b>Population</b>	<b>2,295,967</b>	<b>100.0%</b>	<b>729,636</b>	<b>100.0%</b>	<b>31.8%</b>	<b>855,018</b>	<b>100.0%</b>	<b>37.2%</b>

Data Sources: 2001 Utah Health Status Survey Data Set, Utah Population Estimate Committee, and Diabetes Mandate Survey

Note: All data is for the year 2001.

## Financial Impact

To measure financial impact, the diabetes mandate was measured as a percent of total comprehensive claims for the years 2000, 2001, and 2002. Data for 2000 was assumed to be representative of conditions prior to the mandate, whereas data for 2001 and 2002 was assumed to be representative of conditions after the mandate. To minimize the effects of medical inflation and membership changes, all data was converted to 2000 dollars using the Medical Cost Price Index and weighted by member months. While every effort was made to control for extraneous effects, the study is correlational rather than causal in its design and other market forces besides the mandate must be assumed to affect the results.

*Diabetes mandate as percent of total comprehensive claims.* During the period from 2000 to 2002, the comprehensive health insurance market experienced a significant increase in the cost of health insurance (Utah Insurance Department, 2003). Among the sampled health insurers, comprehensive premium per member per year increased by 5.7 percent. The member's portion was estimated (using national employer survey data) to be about 27 percent of premium.

Comprehensive losses per member year (the portion of the claim paid by the insurer) increased by 8.6 percent, whereas, comprehensive out of pocket costs per member per year (the portion of the claim paid by the member) increased by 28.8 percent. Overall, the total cost per member per year (the insurer's portion and the member's portion combined) increased by 11.9 percent and the percentage of claims paid by the insurer declined slightly by 3 percent.

The increases in out of pocket costs (the portion of the claim paid by the member) may appear higher than they actually are. There was a slight trend toward an increase in portion of claim paid by members, but this was small in relation to the overall trend and does not appear to have any direct connection to the mandate. It may reflect adjustments made by employers and insurers due to the high rates of medical inflation during this period, or it may be due to the particular distribution of claims paid during this period.

During this same time period, the losses per member per year for the diabetes mandate increased by 19.8 percent and the cost of the mandate as a percentage of losses per member per year increased from 0.8 percent to 0.9 percent, a relative increase of 0.1 percent. A similar pattern was found for out of pocket costs (the portion of the claim paid by the member) and total costs (the insurer's portion and member's portion combined) (see Table 10).

The small increase in costs for the diabetes mandate accounts for only 0.2 percent of the 8.6 percent increase in comprehensive claims (or about 2 percent of the total increase). Thus, the diabetes mandate, as measured in this study, did not exceed 1 percent of losses per member per year during the three years data was available and does not appear to have increased comprehensive claim costs more than 0.1 percent.

**Table 10. Overview of Diabetes Mandate in the Comprehensive Market from 2000 to 2002**

	2000	2001	2002	Percent Change
Comprehensive Premium				
Premium PMPY	1,374.32	1,446.51	1,452.78	5.7%
Estimated Employees Portion PMPY*	371.07	390.56	392.25	-
Comprehensive Claims				
Losses PMPY (Paid By Insurer)	1,126.53	1,179.33	1,223.27	8.6%
Out of Pocket Cost PMPY (Paid By Member)	220.75	247.26	284.24	28.8%
Total Cost PMPY (Losses plus Out Of Pocket)	1,347.28	1,426.59	1,507.51	11.9%
Percent of Total Cost PMPY Covered By Insurance	84%	83%	81%	-3%
Diabetes mandate				
Losses PMPY (Paid By Insurer)	8.92	11.12	10.68	19.8%
Out of Pocket Cost PMPY (Paid By Member)	2.05	2.68	2.82	37.8%
Total Cost PMPY (Losses plus Out Of Pocket)	10.97	13.80	13.51	23.1%
Percent of Total Cost PMPY Covered By Insurance	81%	81%	79%	-2%
Mandate as Percent of Comprehensive				
Losses PMPY (Paid By Insurer)	0.8%	0.9%	0.9%	0.1%
Out of Pocket Cost PMPY (Paid By Member)	0.9%	1.1%	1.0%	0.1%
Total Cost PMPY (Losses plus Out Of Pocket)	0.8%	1.0%	0.9%	0.1%

Data Source: Diabetes Mandate Survey

Note: All values have been adjusted for medical inflation to 2000 dollars. PMPY means per member per year. Total Cost PMPY includes both the portion of the claim covered by insurance and the portion of the claim paid by the member through deductibles and coinsurance.

\* Estimated using data from Kaiser Employer Health Benefits Survey (Kaiser/HRET, 2002).

Overall, the data suggests that the percentage of total claims associated with the diabetes mandate did not change significantly between 2000 and 2002, and the small increase found does not appear to be larger than 0.1 percent. This is consistent with the Legislative Fiscal Analyst's previous estimate that premium costs would not increase more than 0.17 percent (see Appendix).

*Source of cost increase.* Although the effect of the increase in mandated costs was small, an attempt was made to find the source of the cost increase. Based on the available data, it appears that more than 90 percent of the increase in the diabetes mandates' claim cost can be explained by an increase in the cost per member per year of insulin & oral drugs.

Between 2000 and 2002, losses per member per year for insulin & diabetic drugs increased by 26 percent (utilization increased by 19 percent). By comparison, comprehensive pharmacy losses per member per year increased by 25 percent (utilization increased by 25 percent). Thus, the mandated drug costs appear to be following the general medical trend in pharmacy costs. The remainder of the cost increase was primarily due to moderate increases in the cost and utilization of insulin & injection supplies and supplies for glucose monitor use, as well as a large increase in the utilization of diabetes education. However, the effect of the increases in these other services was small (about 10 percent of the total increase) (see Table 11).

**Table 11. Changes in Comprehensive Losses PMPY from 2000 to 2002**

<b>Comprehensive</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Percent Increase</b>	<b>Relative Percent Increase</b>	<b>Percent of Total Increase</b>
Facility	363.36	344.95	357.90	-1.5%	-0.5%	-5.7%
Professional	260.61	282.39	296.18	13.7%	3.2%	36.8%
Prescriptions Drugs	174.95	203.62	218.56	24.9%	3.9%	45.1%
Mental Health	25.11	30.35	28.57	13.8%	0.3%	3.6%
Maternity	92.55	90.49	87.37	-5.6%	-0.5%	-5.4%
Laboratory Tests and X-Ray	77.77	87.12	92.94	19.5%	1.3%	15.7%
Emergency Room	51.55	54.74	55.31	7.3%	0.3%	3.9%
Durable Medical Equipment	11.93	11.75	14.17	18.8%	0.2%	2.3%
All Other	68.70	73.92	72.27	5.2%	0.3%	3.7%
<b>Total Comprehensive</b>	<b>1,126.53</b>	<b>1,179.33</b>	<b>1,223.27</b>	<b>8.6%</b>	<b>8.6%</b>	<b>100.0%</b>

  

<b>Mandate</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Percent Increase</b>	<b>Relative Percent Increase</b>	<b>Percent of Total Increase</b>
Diabetes Education						
Diabetes Management Training	0.01	0.03	0.05	262.6%	0.4%	2.2%
Blood Glucose Monitoring						
Monitors	0.11	0.02	0.09	-20.3%	-0.2%	-1.3%
Supplies necessary for monitor use	0.73	1.05	0.86	17.6%	1.4%	7.3%
Insulin						
Insulin & Injection Supplies	1.90	2.33	2.94	54.7%	11.7%	59.0%
Insulin Pumps & Supplies	1.82	2.17	1.83	0.7%	0.1%	0.8%
Prescription Diabetic Drugs						
Drugs & Glucagon	4.35	5.52	4.91	13.0%	6.3%	32.0%
<b>Total Mandate</b>	<b>8.92</b>	<b>11.12</b>	<b>10.68</b>	<b>19.8%</b>	<b>19.8%</b>	<b>100.0%</b>

Data Source: Diabetes Mandate Survey

Note: All values have been adjusted for medical inflation to 2000 dollars. PMPY means per member per year.

*Distribution of costs.* The study also attempted to estimate the distribution of medical costs among diabetics compared to the average comprehensive member. Some insurers were unable to provide complete claim data on diabetics separately, which limited the kinds of analysis that could be conducted. This effects about 10 percent of the diabetic population in the sample. An analysis of the remaining 90 percent provides a similar overall pattern as the comprehensive claim data, but because the utilization patterns in each insurer were different, the missing data creates a different utilization picture for individual categories than when all of the data is used. So an average is presented here rather than a three-year trend to avoid confusion and minimize error.

Comprehensive and diabetes mandate claim cost averages were calculated for all members, type 1 & 2 members, and gestational members. As shown in Table 12, type 1 & 2 diabetics had comprehensive claim costs that were 4.5 times that of the average member, and gestational diabetics had comprehensive claim costs that were 3.7 times that of the average member (see Table 12).

**Table 12. Average Losses PMPY for All, Type I & II, and Gestational Members**

	<b>All Members</b>		<b>Type 1 &amp; 2 Diabetics</b>		<b>Gestational Diabetics</b>	
<b>Comprehensive</b>	<b>Cost PMPY</b>	<b>Percent of Total Cost</b>	<b>Cost PMPY</b>	<b>Percent of Total Cost</b>	<b>Cost PMPY</b>	<b>Percent of Total Cost</b>
Facility	355.40	30.2%	1,723.14	33.0%	321.04	7.4%
Professional	279.73	23.8%	898.14	17.2%	319.36	7.4%
Prescriptions Drugs	199.04	16.9%	1,454.68	27.8%	222.39	5.2%
Mental Health	28.01	2.4%	51.79	1.0%	8.46	0.2%
Maternity	90.14	7.7%	70.94	1.4%	2,873.55	66.6%
Laboratory Tests and X-Ray	85.94	7.3%	313.86	6.0%	403.88	9.4%
Emergency Room	53.86	4.6%	146.50	2.8%	76.68	1.8%
Durable Medical Equipment	12.62	1.1%	170.46	3.3%	29.32	0.7%
All Other	71.63	6.1%	398.00	7.6%	58.34	1.4%
<b>Total Comprehensive</b>	<b>1,176.37</b>	<b>100.0%</b>	<b>5,227.50</b>	<b>100.0%</b>	<b>4,313.01</b>	<b>100.0%</b>

  

<b>Diabetes Mandate</b>	<b>Cost PMPY</b>	<b>Percent of Total Cost</b>	<b>Cost PMPY</b>	<b>Percent of Total Cost</b>	<b>Cost PMPY</b>	<b>Percent of Total Cost</b>
Diabetes Education						
Diabetes Management Training	0.03	0.3%	1.15	0.2%	0.77	1.6%
Blood Glucose Monitoring						
Monitors	0.07	0.7%	1.01	0.2%	0.17	0.4%
Supplies necessary for monitor use	0.88	8.6%	43.80	7.7%	11.43	24.0%
Insulin						
Insulin & Injection Supplies	2.39	23.4%	144.99	25.4%	15.36	32.2%
Insulin Pumps & Supplies	1.94	18.9%	88.51	15.5%	17.07	35.8%
Prescription Diabetic Drugs						
Drugs & Glucagon	4.93	48.1%	290.26	50.9%	2.86	6.0%
<b>Total Mandate</b>	<b>10.24</b>	<b>100.0%</b>	<b>569.90</b>	<b>100.0%</b>	<b>47.70</b>	<b>100.0%</b>

Data Source: Diabetes Mandate Survey

Note: Cost data is based on three-year average of losses PMPY. All values have been adjusted for medical inflation to 2000 dollars. PMPY means per member per year.

This is consistent with previous research (American Diabetes Association, 2003a; Rubin, Altman, & Mendelson, 1994), which found ranges in health care cost for diabetics are 4 to 5 times that of non-diabetics. Although diabetics cost more, the main cost drivers for type 1 & 2 diabetes appear to be similar to the average member. For example, the top medical expenses for both diabetics and the average member were facility, physician, and pharmacy costs. For diabetics, these three categories accounted for approximately 78 percent of total comprehensive costs. For the average member, these three categories accounted for approximately 70 percent of total comprehensive costs. In contrast, the top medical expense for gestational diabetics was maternity, which accounted for 67 percent of total comprehensive costs.

By comparison, the costs associated with the diabetes mandate for type 1 & 2 diabetics account for approximately 11 percent of diabetic losses per member per year, compared to 1.1 percent for both gestational diabetics and 0.9 percent for all members. Overall, diabetic claims accounted for nearly 9 percent of total comprehensive costs, with the diabetes mandate accounting for about 0.9 percent.

The main cost driver for type 1 & 2 diabetics under the mandate was pharmacy followed by insulin. For gestational, the main cost driver was insulin and glucose monitoring supplies. These cost patterns are consistent with the treatment guidelines for type 1 & 2 diabetics (American Diabetes Association, 2003c) and gestational diabetes (American Diabetes Association, 2002).

Overall, the major cost areas of the mandate are pharmacy, insulin & injection supplies, and supplies for blood glucose monitoring. Diabetes education appears to have been a very small component.

*Impact of the diabetes population on costs.* One of the reasons that the relative cost of the diabetes mandate remained under 1 percent was the lower number of diabetics covered by commercial insurance companies in Utah. Below is an estimate of how the costs of the diabetes mandate may change if the number of diabetics in the comprehensive market increased to the levels similar to the statewide distribution of diabetics (see Table 13). For example, if the number of covered diabetics increased from 18 diabetics per 1,000 to 24 diabetics per 1,000, the cost per member per month of the diabetes mandate for all members would increase by 34.5 percent, or by about 0.2 percent of total comprehensive costs, and the cost per member per month for comprehensive claims would increase by 2.1 percent. The effect on comprehensive costs is more significant because diabetics incur approximately 4 times more losses per year than the average member. So most of the increase is due to the more expensive nature of medical coverage for diabetes, rather than increases in the cost of the diabetes mandate. However, more diabetics would mean slightly higher costs under the diabetes mandate as well.

**Table 13. Estimated Impact of Diabetic Population increasing to State Levels**

Sample	Comprehensive			Diabetes Mandate		Mandate as Percent of Comprehensive
	Cases Per 1,000	Average per member	Cost PMPM*	Average per member	Cost PMPM*	
Type I & II	18	5,227.50	7.84	569.90	0.84	10.9%
Gestational	2	4,313.01	0.72	47.70	0.01	1.1%
Non-diabetics	980	1,095.56	89.47	-	-	0.0%
All Members	1,000	1,176.37	98.03	10.24	0.85	0.9%
State						
Type I & II	24	5,227.50	10.46	569.90	1.14	10.9%
Gestational	2	4,313.01	0.72	47.70	0.01	1.1%
Non-diabetics	974	1,095.56	88.92	-	-	0.0%
All Members	1,000	1,201.16	100.10	13.77	1.15	1.1%
Net Change		24.79	2.07	3.53	0.29	-
Percent Change		2.1%	2.1%	34.5%	34.5%	0.2%

Source: Diabetes Mandate Survey

Note: All data is based on a three-year average of losses per member per year. All values have been adjusted for medical inflation to 2000 dollars. The estimate assumes a constant average cost per member and changes in the relative distribution of diabetics per 1,000 among commercial health insurers. Similar results are found when data is used for 2000, 2001 and 2002.

\* "Cost PMPM" means the average cost per member per month under a comprehensive health insurance policy.

*Estimated impact on premiums.* Commercial insurers were unable to provide data that would provide the exact portion of premium attributable to the diabetes mandate. In practice, few insurers set premiums for an individual mandate; rather, premiums are set relative to the broader medical trend, underwriting factors, and marketing and profit goals.

As a result, the actual premium impact of the diabetes mandate will vary considerably depending on the health insurer's individual circumstances. For example, insurers with a smaller diabetic population will have a smaller impact than those with a larger diabetic population. Also, as Utah's population get older, or the number of diabetics increases, the premium impact will likely increase. Premium impact will also vary according to group size (large or small) or plan type (managed care or traditional indemnity), or other underwriting and marketing factors that actuaries must take into account in order to determine the price of insurance.

However, most of a health insurer's premium is priced to cover the costs of two areas, claim costs and administrative costs. Claim costs typically make up between 80 and 90 percent of an insurance company's costs and administrative costs typically make up between 10 and 20 percent of costs. Insurers must also factor in taxes, state mandated reserve requirements, and profit goals. If one assumes that the administrative costs of insurance (including additional factors such as taxes, reserves, etc.) are equally distributed among members, then one can provide a rough estimate of the premium needed to cover the costs of the diabetes mandate. Since the diabetes mandate appears to cost about 0.9 percent of total claims, and if we assume that administrative costs are distributed equally among members, then the portion of premium will be roughly equal to the percentage of claims, or about 0.9 percent (see Table 14). However, it is important to remember that this is a very gross estimate and does not take into account important factors that an actuary would use to estimate the risk for their insured population.

**Table 14. Estimated Premium Cost of Diabetes Mandate**

<b>Average Cost*</b>	<b>Cost PMPM</b>	<b>Percent</b>
Losses	98.03	82.3%
Administrative	15.36	12.9%
Estimated Overhead **	5.77	4.8%
Premium	119.16	100.0%

<b>Estimated Cost of Mandate*</b>	<b>Cost PMPM</b>	<b>Percent</b>
Losses	0.85	0.9%
Administrative	0.13	0.9%
Estimated Overhead**	0.05	0.9%
Premium	1.03	0.9%

Data Sources: Diabetes Mandate Survey and NAIC Financial Database.

\* Three year average from 2000, 2001, and 2002

\*\* Overhead includes taxes, state reserve requirements, profit goals, etc.

Will vary with each individual insurer's situation.

## Estimated Benefits to Diabetic Population in Utah

### Potential Benefits (Previous Research)

The goal of diabetes therapy is to achieve near normal glucose levels (optimal glycemic control) and minimize the complications associated with the disease (American Diabetes Association, 2003b). Diabetics with optimal glycemic control have fewer complications from diabetes, better health outcomes, an improved quality of life, and incur lower health care costs (see DCCT Research Group, 1993; UKPDS Group, 1998; Shichiri et al., 2000; Testa & Simonson, 1998; Wagner et al., 2001).

The standard benchmark for measuring glycemic control over time is the Hemoglobin 1Ac test (Hb1Ac). The goal is to maintain an Hb1Ac level of 7 percent or lower, which means that the average blood glucose levels have been at near normal levels over the past two to three months (American Diabetes Association, 2003c). When Hb1Ac levels are higher than 7 percent (e.g., 8 to 10 percent), diabetics experience much higher rates of complications, poor health outcomes, a lower quality of life, and incur higher health care costs. Lowering Hb1Ac levels to 7 percent or less can prevent or reduce these problems. For example, the Diabetes Control and Complications Trial (DCCT) found that for every 1 percent reduction in Hb1Ac levels there was a 40 to 50 percent decrease in complications (DCCT Research Group). Similar results were found by other studies (e.g., UKPDS Group, 1998; Shichiri et al., 2000). Reductions in Hb1Ac have been demonstrated to improve the quality of life (Testa & Simonson, 1998) and reduce health care costs (Wagner et al., 2001).

Previous research has also shown that an effective means of reducing Hb1Ac levels is a combination of diabetes self-management training and access to the medical supplies necessary to maintain near normal blood glucose levels and this has become part of the recommended standard of care (American Diabetes Association, 2003c). Programs that provided both diabetes education and the necessary supplies have been shown to reduce Hb1Ac levels to 7 percent or lower. For example, in studies by the Utah Diabetes Center and the Utah Diabetes Control Program (UDCP), diabetics who participated in an intensive diabetes education program reduced Hb1Ac levels from an average of approximately 8.6 percent to 7.3 percent (Utah Diabetes Center, 2003; Utah Diabetes Control Program, 2003b).

Other studies of diabetes education programs have reported similar reductions in Hb1Ac (e.g., Abourizk, et al., 1994; Aubert et al., 1998), as well as reductions in hospital utilization (e.g., Davidson et al., 1979; Levetan et al., 1995; The Center for Health Program Development and Management, 1995; Maine Diabetes Control Project as cited in Albee & Lee, 1997; Rubin et al., 1998) and health care costs (e.g., Milliman & Robertson, 1997; Rubin et al., 1998).

In addition, at least three actuarial studies and several state governments have modeled the effect of having access to diabetes education and supplies in a manner similar to U.C.A § 31A-22-626. In 1997, Milliman & Robertson conducted a study for the American Diabetes Association. The study estimated the cost impact of including diabetes education and supplies in a major medical policy. The study concluded that adding diabetes education and supplies would likely result in cost savings, primarily from fewer inpatient days and outpatient visits.

For example, a diabetic in a managed care environment would have, without diabetes education and supplies, a base cost of \$4,064. Adding coverage for diabetes education and supplies would have a median cost of \$443 and result in a median gross savings of \$672. The net savings would be approximately \$246 (or approximately 6 percent of claims costs for a single diabetic). Similar levels of cost savings have been found by other studies. For example, Wagner et al (2001) tested the effects of reduced Hb1Ac levels on the health care costs of individual diabetic patients and found gross cost savings of between \$600 and \$900 per year. Actual results will vary considerably depending on the individual circumstances of the insurer.

Two other actuarial studies, one conducted by Milliman & Robertson (Reed, 1995) for the State of Washington and another by PricewaterhouseCoopers (Hunt & Weiner, 1999) for the State of California, found that the cost of adding diabetes education and supplies to a health insurance policy would be small (e.g., 21 cents per member per month in Milliman & Robertson (Reed, 1995)) and the cost was projected to be less than 1 percent of premiums (Hunt & Weiner, 1999).

As of June 2003, most states have in place some type of law that requires commercial health insurers to cover treatment for diabetes. Only four states (Alabama, Idaho, North Dakota, and Ohio) currently do not have such a law (National Conference of State Legislatures, 2003). In addition, a recent GAO report found that 43 states have statutes specifically requiring the coverage of diabetes education and supplies. It was the second most common benefit mandate among the states (GAO, 2003).

At least two states, Virginia and Wisconsin, have conducted studies of their diabetes coverage statutes (which are similar to Utah's diabetes mandate). Virginia's study (Commonwealth of Virginia, 2003) found that diabetes coverage accounted for 1.12 percent of total group health care claims during 2001. Wisconsin's study (Office of the Commissioner of Insurance, 2001) found that diabetes coverage accounted for .59 percent of total group health care claims during 2001.

While the literature presented here is necessarily brief, the pattern from the available literature suggests that:

- The primary goal of diabetes therapy is near normalization of blood glucose
- Normalization of blood glucose (as measured by Hb1Ac) can reduce complications, improve health outcomes, and reduce health care costs.
- An effective means of reducing Hb1Ac to normal levels is a combination of diabetes education and supplies to empower the diabetic to manage the disease personally.
- Programs that provide diabetes education and the supplies to normalize blood glucose appear to reduce Hb1Ac levels, improve health outcomes, and reduce health care costs.
- Studies of diabetes mandates suggests that the benefit typically costs around 1 percent of claims costs and several actuarial studies suggest that adding the benefit will not increase premiums significantly and may reduce health care costs.
- Forty-six states currently have in place some type of law requiring health insurance coverage to include the treatment of diabetes and at least 43 states have mandates that specially require coverage of diabetes education and supplies.

## Estimated Benefits

As the previous research suggests, diabetic patients with access to both education and supplies appear to experience improvements in health care outcomes (via lower Hemoglobin a1c scores and fewer complications) and lower health care costs. Unfortunately, given the type of data available, the Insurance Department was not able to directly measure the relationship between the mandate and actual benefits to individual diabetics. However, the available data does show an increase in services that previous research suggests may benefit the diabetics in the commercial health insurance market.

*Increases in coverage.* As shown in Table 5, most insurers in the sample provided some type of coverage for each aspect of diabetes prior to the mandate. However, the diabetes mandate does appear to have increased coverage for diabetes education and glucose monitors by approximately 20 percent. It may also have increased the minimum level of coverage among some insurers, particularly for diabetes education. It also appears to have created a measure of security for about 20 percent of the Type 1 & 2 diabetic population and about 30 percent of the Gestational diabetic population by limiting commercial insurers ability to reduce or drop coverage for diabetes.

*Increases in diabetic education.* The number of diabetes education classes provided to diabetics increased by nearly 300 percent. This is a large increase. However, this increase needs to be interpreted with caution. Even after this increase, the number of diabetics in the sample who actually received education was small. The available data did not permit an exact count of how many individual diabetics received education, but the utilization rate (for either type 1 & type or gestational) was approximately 30 sessions per 1,000 diabetics. Furthermore, this pattern is consistent with previous research, which have also found that most diabetics (65 percent) do not receive diabetes education (e.g., Coonrod, Betschart, & Harris, 1994).

There are several possible explanations for this. First, under the statute, commercial insurers only pay for diabetes education if it is deemed medically necessary by a physician and if a certified provider provides the education. This would create a natural limit on the amount of education, as physicians would not prescribe diabetes education for every diabetic, rather, they are likely to prescribe it for those who demonstrate a medical need for the training (e.g., poor glycemic control or new cases of diabetes).

Second, this study only tracked diabetes education that was coded using the national HCPCS codes for individual and group diabetes self-management training. Informal discussions with diabetes educators suggest that some diabetes education is being coded as outpatient office visits and would not be tracked by insurers as education. So the study may be undercounting the actual amount of diabetes education being provided. This may change in the future as a new and improved coding system was introduced by Medicare on January 1, 2002 and, if widely used, will improve tracking of diabetes education.

*Increases in glucose monitor supplies.* Utilization for glucose monitors showed little change. Utilization for supplies was relatively constant, except for lancets and visual testing strips for urine and ketones. Lancet use increased by 19 percent and urine/ketone testing strips increased by 68 percent.

*Increase in insulin & insulin supplies.* Insulin use increased by 27 percent. Insulin supplies were relatively constant or declined slightly, except for syringes and insulin cleaning supplies. Syringe use increased by 123 percent and cleaning supplies use increased by more than 500 percent. Insulin pump and insulin pump supplies increased by about 7 percent.

*Increase in prescription diabetic drugs.* The number of diabetic drug prescriptions increased by 19 percent. There was little or no activity for glucagons kits.

*Summary.* Generally, the diabetics in the commercial sample appear to have received more education, more insulin and prescription oral agents during 2002 than in 2000. There was also evidence of a slight increase in certain supplies needed for glucose monitors, insulin injection (particularly cleaning supplies), and insulin pump use. From the view of previous research, these increases are probably beneficial to diabetics.

However, these increases are probably not due to the diabetes mandate alone. The increases in insulin, prescription oral drugs, and various supplies may also be part of a broader medical trend as use of all pharmaceuticals also increased by 25 percent. An exception to this is diabetes education. The increases in diabetes education utilization are more likely due to the changes in access and minimum standards created by the mandate.

Furthermore, while the amount of diabetes education and supplies being used and paid for under comprehensive health insurance plans appears to have increased, the level of utilization in the comprehensive market as a whole may not be at levels that previous research has found significant reductions in Hb1Ac levels and health care costs. In these studies, a majority of diabetics had received diabetic education and supplies as part of a careful controlled intervention. This would not necessarily occur in the commercial market under free market conditions. In fact, while the statute has increased access for commercially insured diabetics, commercial insurers are not in a position to directly influence the decisions of individual diabetics and physicians, which are also important factors in whether diabetics actually use the covered benefits. But those who did use the services are likely to benefit from improved glucose control, improved health outcomes, and lower health care costs.

## Summary

As required by U.C.A § 31A-22-626, the Utah Insurance Department created minimum standards for the coverage of diabetes under commercial health insurance policies and published these standards by rule under R590-200 in early 2001. Also, the Utah Insurance Department conducted a study of the diabetes mandate. Based on three years of data obtained from 90 percent of the commercial health insurance market, the Utah Insurance Department was able to estimate the impact of the diabetes mandate on health insurance coverage, the diabetic population in Utah, and health care costs in the commercial health insurance market.

*Coverage Impact.* Based on data from 1999 to 2002, most commercial health insurers were providing some level of coverage for the major aspects of the diabetes mandate. The two areas that coverage appeared to have changed because of the mandate were diabetes education and glucose monitors. By 2002, the number of commercially insured residents with coverage for diabetes education had increased by 20 percent and the number of commercially insured residents with coverage for glucose monitors with lancet devices had increased by 10 percent. There may also have been an increase in the minimum levels of coverage available, particularly for diabetes education.

*Population Impact.* Based on data from 2000 to 2002, the prevalence of diabetics in the commercial health insurance market is slightly lower than the prevalence of diabetics in Utah as a whole. Among residents between the ages of 0 to 65, the prevalence of diabetes was 1.8 percent among commercially insured residents, compared to 2.4 percent for the entire state of Utah. This is probably due to differences in demographics, as the commercially insured population appears to be younger than the Utah population as a whole. Also, commercial health insurers typically do not provide major medical coverage to people over the age of 65, which is the population with the highest rates of diabetes. As a result, the diabetes mandate affects approximately 30 percent of type 1 & 2 diabetics between the ages of 0 to 64 (or about 20 percent of all type 1 & 2 diabetics in Utah) and approximately 30 percent of gestational diabetics in Utah.

*Financial Impact.* Financial impact was measured using data from 2000 to 2002. All data was adjusted to 2000 dollars using the Medical Care Price Index and weighted by member months. During this three-year period, the average comprehensive premium per member per year increased by 5.7 percent, the average comprehensive losses per member per year increased by 8.6 percent, and the diabetes mandate losses per member per year increased by 19.8 percent.

In relative terms, the 19.8 percent increase in the diabetes mandate accounts for only 0.2 percent of the total increase in comprehensive costs. Furthermore, the cost of the mandate as a percentage of losses per member per year increased from 0.8 percent to 0.9 percent, a relative increase of 0.1 percent. Thus, the diabetes mandate, as measured in this study, did not exceed 1 percent of losses per member per year during the three years data was available and does not appear to have increased comprehensive claim costs more than 0.1 percent. This is consistent with the Legislative Fiscal Analyst's previous estimate that premium costs would not increase more than 0.17 percent (see Appendix) as well as previous studies of the claim costs of other states' diabetes statutes.

Consistent with previous research, diabetics incurred 4 to 5 times more health care costs than the average commercial insured member. Diabetics accounted for 9 percent of total comprehensive costs, and the diabetes mandate accounts for approximately 10 percent of that or 0.9 percent of total comprehensive costs. However, if the percentage of diabetics covered by the commercial health insurance market increased from 1.8 percent to the state average of 2.4 percent, comprehensive costs would likely increase by approximately 2 percent and the diabetes mandate costs would increase by approximately 0.2 percent.

*Estimated Benefits.* The primary goal of diabetes therapy is to maintain near normal levels of blood glucose. Previous research suggests that programs that provide diabetes education and access to the supplies necessary to control glucose levels may improve health outcomes and reduce health care costs for diabetes.

The available data did not permit the Utah Insurance Department to measure health outcomes and health care costs for individual diabetics, but the data did show an increase in the use of diabetes education and supplies that previous research has shown may benefit diabetics. From 2000 to 2002, diabetics received significantly more education, more insulin and prescription oral agents, and a slight increase in certain supplies needed for glucose monitors, insulin injection (particularly cleaning supplies), and insulin pump use.

Although the amount and availability of diabetes education and supplies increased in a direction that previous research has shown may benefit patients with diabetes, the actual levels of use of diabetes education and supplies by diabetics in the commercial health insurance market as a whole may not be at levels that previous research has found to provide a clinical benefit. Furthermore, the increase in insulin, prescription oral drugs, and various supplies may not be due to the mandate alone, as utilization for all pharmaceuticals in the commercial market also increased by 25 percent. Rather, some of the increase in these diabetic services may simply be part of broader medical trends. An exception to this is the increase in diabetes education, which is more likely to have been a direct effect of the diabetes mandate.

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## Appendix

## U. C. A. § 31A-22-626

### **31A-22-626. Coverage of diabetes.**

- (1) As used in this section, "diabetes" includes individuals with:
  - (a) complete insulin deficiency or type 1 diabetes;
  - (b) insulin resistant with partial insulin deficiency or type 2 diabetes; and
  - (c) elevated blood glucose levels induced by pregnancy or gestational diabetes.
- (2) The commissioner shall establish, by rule, minimum standards of coverage for diabetes for accident and health insurance policies that provide a health insurance benefit before July 1, 2000.
- (3) In making rules under Subsection (2), the commissioner shall require rules:
  - (a) with durational limits, amount limits, deductibles, and coinsurance for the treatment of diabetes equitable or identical to coverage provided for the treatment of other illnesses or diseases; and
  - (b) that provide coverage for:
    - (i) diabetes self-management training and patient management, including medical nutrition therapy as defined by rule, provided by an accredited or certified program and referred by an attending physician within the plan and consistent with the health plan provisions for self-management education:
      - (A) recognized by the federal Health Care Financing Administration; or
      - (B) certified by the Department of Health; and
    - (ii) the following equipment, supplies, and appliances to treat diabetes when medically necessary:
      - (A) blood glucose monitors, including those for the legally blind;
      - (B) test strips for blood glucose monitors;
      - (C) visual reading urine and ketone strips;
      - (D) lancets and lancet devices;
      - (E) insulin;
      - (F) injection aides, including those adaptable to meet the needs of the legally blind, and infusion delivery systems;
      - (G) syringes;
      - (H) prescriptive oral agents for controlling blood glucose levels; and
      - (I) glucagon kits.
- (4) (a) Before October 1, 2003, the commissioner shall report to the Health and Human Services Interim Committee on the effects of Section **31A-22-626**. The report shall be based on three years of data and shall include, to the extent possible:
  - (i) a review of the rules established under Subsection (3);
  - (ii) the change in availability of coverage resulting from this section;
  - (iii) the extent to which persons have been benefited by the provisions of this section; and
  - (iv) the impact of this section on premiums.
- (b) The Legislature shall consider the results of the report under Subsection (4)(a) when determining whether to reauthorize the provisions of this section.

Section 2. Section **63-55b-131** is amended to read:

### **63-55b-131. Repeal dates -- Title 31A.**

- (1) Section 31A-22-625 is repealed July 1, 2004.

## Fiscal Note for S.B. 108

### “Diabetes Treatment and Management – Managed Care”

February 3, 2000

The fiscal impact of this bill as amended by Committee on January 31, 2000 is estimated to be minimal toward most entities that offer health insurance. It could affect policies and increase premiums up to 0.17 percent. Many organizations will be able to absorb the cost increases within existing rates. In the long term, some savings may be accrued to offset some of the expenses. This cannot be quantified at the present time. Organizations which are exempt due to ERISA (Employee Retirement Income Security Act of 1974) would not be required to comply. The State's Public Employee Health Program is not required to adopt the changes to the State Insurance Code, though it has traditionally done so. The bill may require some insurance companies to change their policy forms and re-file them with the Insurance Department. This is estimated to generate approximately \$13,800 revenue to the General Fund. An appropriation of \$3,000 from the General Fund to the Insurance Department is needed for processing of the rate forms.

	<u>FY 01 Approp.</u>	<u>FY 02 Approp.</u>	<u>FY 01 Revenue</u>	<u>FY 02 Revenue</u>
General Fund	\$3,000	\$0	\$13,800	\$0
<b>TOTAL</b>	<b><u>\$3,000</u></b>	<b><u>\$0</u></b>	<b><u>\$13,800</u></b>	<b><u>\$0</u></b>

### Individual and Business Impact

The fiscal impact is three-fold. First, affected individuals could realize a savings from the additional treatment and training regarding their condition. Second, the general population of insured individuals may experience a small premium increase of up to .17 percent. The insured individual or their employers may pay this. Third, insurance companies may be required to file a rate change form at a cost of \$20.00 per form.

In the long term, some savings may be accrued to offset a portion of future premium increases. This cannot be quantified.

Additional insurance benefits could result in added costs for the mandated benefits. The costs of mandated coverage may be recovered by: 1) reducing other benefits; 2) increasing premiums; 3) reducing company profits; or 4) increasing insurance company losses.

SOURCE: Office of the Legislative Fiscal Analyst

## R590-200. Diabetes Treatment and Management

### **R590. Insurance, Administration. (Effective 4-30-01)**

### **R590-200. Diabetes Treatment and Management.**

#### **R590-200-1. Authority.**

This rule is promulgated pursuant to Subsections 31A-2-201(1) and 31A-2-201(3)(a) in which the commissioner is empowered to administer and enforce this title and to make rules to implement the provisions of this title. The authority to set minimum standards by rule for coverage of diabetes is provided in Section 31A-22-626.

#### **R590-200-2. Purpose.**

The purpose of this rule is to establish minimum standards of coverage for diabetes. Diabetes includes individuals with:

- (1) complete insulin deficiency or type 1 diabetes;
- (2) insulin resistance with partial insulin deficiency or type 2 diabetes; and
- (3) elevated blood glucose levels induced by pregnancy or gestational diabetes.

This coverage will be provided at the levels consistent with the coverage provided for the treatment of other illnesses or diseases.

#### **R590-200-3. Applicability and Scope.**

- (1) This rule applies to all health care insurance policies sold in Utah.
- (2) This rule does not prohibit an insurer from requesting additional information required to determine eligibility of a claim under the terms of the policy, certificate or both, as issued to the claimant.

#### **R590-200-4. Definitions.**

For purposes of this rule the commissioner adopts the definitions as particularly set forth in Section 31A-1-301 and in addition, the following:

(1) "Health care insurance" means insurance providing health care benefits or payment of health care expenses incurred, including prescription insurance. Health care insurance does not include accident and health insurance providing benefits for:

- (a) dental and vision;
  - (b) replacement of income;
  - (c) short term accident;
  - (d) fixed indemnity;
  - (e) credit accident and health;
  - (f) supplements to liability;
  - (g) workers compensation;
  - (h) automobile medical payments;
  - (i) no fault automobile;
  - (j) Medicare supplement insurance plans;
  - (k) equivalent self-insurance;
  - (l) any type of accident and health insurance that is a part of or attached to another type of policy; or
  - (m) long term care insurance.
- (2) "Diabetes" means diabetes mellitus, which is a common chronic, serious systemic disorder

of energy metabolism that includes a heterogeneous group of metabolic disorders that can be characterized by an elevated blood glucose level. The terms diabetes and diabetes mellitus are considered synonymous and defined to include persons using insulin, persons not using insulin, individuals with elevated blood glucose levels induced by pregnancy, or persons with other medical conditions or medical therapies which wholly or partially consist of elevated blood glucose levels.

(3) "Diabetes self-management training" means a program designed to help individuals to learn to manage their diabetes in an outpatient setting. They learn self-management skills that include making lifestyle changes to effectively manage their diabetes and to avoid or delay the complication, hospitalizations and emergency room visits associated with this illness. This training includes medical nutrition therapy.

(4) "Medical equipment" means non-disposable/durable equipment used to treat diabetes; and will be treated per the standard deductibles, co-payments, out of pocket maximums and coinsurance of the policy.

(5) "Medical nutrition therapy" means the assessment of patient nutritional status followed by therapy including diet modification, planning and counseling services which are furnished by a registered licensed dietitian.

(6) "Medical supplies" means the generally accepted single-use items used to manage, monitor, and treat diabetes, and to administer diabetes specific medications. Medical supplies will be treated per the standard deductibles, co-payments, out of pocket maximums and coinsurance of the policy.

#### **R590-200-5. Minimum Standards and General Provisions.**

(1) Coverage for the treatment of diabetes is subject to the deductibles, co-payments, out-of-pocket maximums and coinsurance of the plan.

(2)(a) All health care insurance policies will cover diabetes self-management training and patient management, including medical nutrition therapy, when deemed medically necessary and prescribed by an attending physician covered by the plan.

(b) The diabetes self-management training services must be provided by a diabetes self-management training program that is accepted by the plan and is:

- (i) recognized by the federal Health Care Financing Administration; or
- (ii) certified by the Department of Health; or
- (iii) approved or accredited by a national organization certifying standards of quality in the provision of diabetes self-management education.

(c) Diabetes self-management training programs shall be provided upon a health care insurance policyholder's/dependent's diagnosis with diabetes, upon a significant change in a health care insurance policyholder's/dependent's diabetes related condition, upon a change in a health care insurance policyholder's/dependent's diagnostic levels, or upon a change in treatment regimen when deemed medically necessary and prescribed by an attending physician covered by the plan. The plan must provide no less than the minimum standards required by the selected self-management training services provider program.

(3) All health care policies will cover the following when deemed medically necessary:

(a) blood glucose monitors, including commercially available blood glucose monitors designed for patients use and for persons who have been diagnosed with diabetes;

(b) blood glucose monitors to the legally blind which includes commercially available blood glucose monitors designed for patient use with adaptive devices and for persons who are legally

blind and have been diagnosed with diabetes;

(c) test strips for glucose monitors, which include test strips whose performance achieved clearance by the FDA for marketing;

(d) visual reading and urine testing strips, which includes visual reading strips for glucose, urine testing strips for ketones, or urine test strips for both glucose and ketones. Using urine test strips for glucose only is not acceptable as the sole method of monitoring blood sugar levels;

(e) lancet devices and lancets for monitoring glycemic control;

(f) insulin, which includes commercially available insulin preparations including insulin analog preparations available in either vial or cartridge;

(g) injection aids, including those adaptable to meet the needs of the legally blind, to assist with insulin injection;

(h) syringes, which includes insulin syringes, pen-like insulin injection devices, pen needles for pen-like insulin injection devices and other disposable parts required for insulin injection aids;

(i) insulin pumps, which includes insulin infusion pumps.

(j) "medical supplies" for use with insulin pumps and insulin infusion pumps to include infusion sets, cartridges, syringes, skin preparation, batteries and other disposable supplies needed to maintain insulin pump therapy;

(k) "medical supplies" for use with or without insulin pumps and insulin infusion pumps to include durable and disposable devices to assist with the injection of insulin and infusion sets;

(l) prescription oral agents of each class approved by the FDA for treatment of diabetes, and a variety of drugs, when available, within each class; and

(m) glucagon kits.

#### **R590-200-6. Severability.**

If any provision or clause of this rule or its application to any person or situation is held invalid, such validity shall not affect any other provisions or application of this rule which can be given effect without the invalid provision or application, and to this end the provisions of this rule are declared to be severable.

#### **KEY: insurance law**

**2001**

**31A-2-201**

**31A-22-626**